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## ON THE AMERICAN SPECIES OF THE GENUS UMBRA.

BY WILLIS S. BLATCHLEY.

I have compared numerous specimens of mud-minnows (*Umbra* Müller), from different parts of the United States, with a view of ascertaining whether more than one species exists in our waters. I find, as already noted by Jordan and Bean, two types; the one (*limi*) inhabiting the waters of the great lake region and north-westwardly; the other (*pygmæa*), inhabiting the coastwise streams from Connecticut to North Carolina.

On careful comparison, the only constant difference between these forms, which I am able to appreciate, is the coloration.

The true *Umbra limi* is dull olive-green in color, with about fourteen narrow, pale, transverse stripes, often obscure in the young; dark bar at base of caudal much less distinct, and lower jaw always paler than in *pygmæa*.

The eastern form, which I regard as a geographical subspecies (*Umbra limi pygmæa*), is much darker in color, with about twelve pale, narrow longitudinal instead of transverse stripes, the one beginning at upper angle of opercle being double the width of the others; dark bar at base of caudal very distinct, extending over  $1\frac{1}{2}$  scales; lower jaw dark, almost black in adults.

The following is the synonymy of each of the two forms:—

***Umbra limi.***

*Hydrargyra limi* Kirtland, Bost. Journ. Nat. Hist., iii, 1840, 277 (Northern Ohio).

*Melanura limi* Agassiz, Amer. Journ. Sci. Arts, 1855, 217; Packard & Putnam, Amer. Nat., Jan., 1872 (Mammoth Cave); Jordan, Man. Vert., 1st ed., 1876, 253, 2d ed., 1878, and 3d ed., 1880, 265; Jordan, Rept. Geol. Surv. Ind., 1875, 33; Jordan & Copeland, Check List Fresh Wat. Fish. N. A., 1877, 143; Jordan, Bull. U. S. Nat. Mus., ix, 1877, 49 (Ohio Valley); Jordan, Annals N. Y. Acad. Sci., i, 1877, No. 4, 103 (Suamico R., Fox R., Rock R., Wisconsin R., White R.); Nelson, Bull. Ill. Lab. Nat. Hist., i, 43; Jordan, Bull. Ill. Lab. Nat. Hist., ii, 1878, 52 (Johnson and Union Counties, Illinois; Crystal Lake, McHenry Co., Ill.); Jordan & Brayton, Bull. U. S. Nat. Mus., xii, 1878, 84 (Ohio and Ill. R. Basins); Forbes, Bull. Ill. Lab. Nat. Hist., ii, 1878, 78 (Food of *Melanura limi*).

*Umbra limi* Günther, Cat. Fish. Brit. Mus., vi, 1866, 232; Jordan, Proc. Acad. Nat. Sci. Philad., 1877, 44 (Lakes, Laporte Co., Ind.;

St. Joseph's R., Maumee R., Tippecanoe R., White R.); Jordan, Rept. Geol. Surv. Ohio, iv, 1882, 912; Jordan & Gilbert, Synopsis Fish. N. A., 1883, 350.

*Hydrargyra fusca* Thompson, Nat. Hist. Vt., 1842, 137 (Lake Champlain).

*Hydrargyra atricauda* De Kay, New York Fauna, Fishes, 1842, 220 (Lake Champlain).

**Umbra limi pygmæa.**

*Leuciscus pygmæus* De Kay, N. Y. Fauna, Fishes, 1842, 214 (Tappan, Rockland Co., N. Y.).

*Melanura pygmæa* Baird, Ninth Smithson. Rept., 1855, 28 (New Jersey Coast); Jordan, Man. Vert., 2d ed., 1878, and 3d ed., 265, 1880; Jordan, Annals N. Y. Acad. Sci., i, 1877, No. 4, 104; Jordan & Brayton, Bull. U. S. Nat. Mus., xii, 1878, 84 (James R., Neuse R.).

*Umbra pygmæa* Bean, MSS.; Jordan, Bull. U. S. Nat. Mus., x, 1874, 53 (Delaware R.); Jordan, Rept. Geol. Surv. Ohio, iv, 1882, 913; Bean, Cat. Fish. International Fish Exhibition, London, 1883, 84 (Kingston, N. C.).

*Fundulus fuscus* Ayres, Bost. Journ. Nat. Hist., iv, 1843, 296 (Brook Haven, Long Island).

*Melanura annulata* Agassiz, Amer. Journ. Sci. Arts, 1855, 217 (not *Exoglossum annulatum* Rafinesque).